

1. A unitary subcutaneous implantable cardioverter-defibrillator comprising:
  - (A) a long thin housing with a first and second ends that is curved in a shape of a patient's rib wherein the housing contains a source of electrical energy, a capacitor, and operational circuitry that senses the presence of potentially fatal heart rhythms;
  - (B) cardioversion/defibrillation electrodes located at the ends of the housing;
  - (C) means for delivering electrical cardioversion-defibrillation energy when the operational circuitry senses a potentially fatal heart rhythm; and
  - (D) the absence of a transvenous, intracardic, epicardial, or subcutaneous electrode.
2. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the electrical cardioversion-defibrillating energy is equal to or greater than 800 Volts.
3. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the electrical cardioversion-defibrillating energy ranges from about 40 Joules to about 150 Joules.
4. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 further comprising at least two sensing electrodes located on the housing.
5. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 4 wherein the sensing electrodes are spaced apart by about 1 to about 10 cm.
6. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 5 wherein the first and second sensing electrodes are spaced apart by about 4 cm.
7. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry can also sense the presence of bradycardia rhythm.

8. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 7 further comprising means for delivering cardiac pacing energy when the operational circuitry senses a bradycardia rhythm.
9. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry is programmable.
10. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry can detect tachycardia.
11. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 10 further comprising means for delivering antitachycardia pacing when the operational circuitry senses a tachycardia rhythm.
12. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 10 wherein the ventricular tachycardia detected is greater than 240 beats per minute.
13. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry can detect atrial tachycardia and atrial fibrillation.
14. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry can induce ventricular tachycardia or ventricular fibrillation.
15. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 14 wherein the ventricular tachycardia or ventricular fibrillation is induced by shocks on the T wave.
16. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 14 wherein the ventricular tachycardia or ventricular fibrillation is induced by low direct current voltage applied during the entire cardiac cycle.

17. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 2 wherein the electrical cardioversion-defibrillating energy ranges from about 800 volts to about 2000 volts.
18. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the electrical cardioversion-defibrillating energy is delivered in a biphasic wave form.
19. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the capacitance is about 50 to about 200 micro farads.
20. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the canister is malleable.
21. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the canister is provided with at least one sensing electrode.
22. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the canister is provided with one or more sensing electrodes, the subcutaneous electrode is provided with one or more sensing electrodes, and means for selecting two sensing electrodes from the sensing electrodes located on the canister and the sensing electrode located on the subcutaneous electrode that provide adequate QRS wave detection.
23. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the electrical cardioversion-defibrillating energy is delivered for about 10 to about 20 milliseconds total duration and with the initial positive phase containing approximately 2/3 of the energy delivered.
24. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the operational circuitry comprises an impedance detection for measuring the undulations in transthoracic impedance created during respiration.

25. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 24 wherein the operational circuitry can also measure the cardiac output using transthoracic impedance.

29. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 13 wherein the operational circuitry can deliver defibrillation energy to treat the detected atrial fibrillation.

30. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 wherein the housing ranges in length from about 15 to about 20 cm.

31. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 30 wherein the unitary subcutaneous implantable cardioverter-defibrillator is provided in different incremental sizes.

32. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 1 further comprising a plug-in core member inside the housing of the unitary subcutaneous implantable cardioverter-defibrillator wherein the plug-in core member contains the source of electrical energy, the capacitor, and the operational circuitry.

33. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 32 wherein the housing ranges in length from about 15 to about 20 cm.

34. The unitary subcutaneous implantable cardioverter-defibrillator of Claim 33 wherein the unitary subcutaneous implantable cardioverter-defibrillator is provided in different incremental sizes.

35. A method of implanting a unitary subcutaneous cardioverter-defibrillator in a patient comprising the steps of;

- (1) making only one skin incision in the thoracic region of the patient;
- (2) inserting a curved introducer through the skin incision to make a subcutaneous path in the thoracic region such that the path terminates subcutaneously at a location that if a straight line were drawn from the skin incision to the path termination the line would intersect the heart of the patient;
- (3) implanting a unitary subcutaneous cardioverter-defibrillator that has a long thin housing that is curved in a shape of a patient's rib; and
- (4) closing the skin incision.

36. The method of implanting a subcutaneous cardioverter-defibrillator of Claim 35 further comprising the step of injecting a local anesthetic through the curved introducer.

37. The method of implanting a subcutaneous cardioverter-defibrillator of Claim 35 wherein the skin incision is located in the left anterior axillary line approximately at the level of the patient's cardiac apex.